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AMSAT NEWS SERVICE
ANS-123

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

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ANS-123 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 123
>From AMSAT HQ KENSINGTON, MD.
May 3, 2015
To All RADIO AMATEURS
BID: $ANS-123

Announcing EO-79 transponder testing for one full orbit - May 4

Wouter Weggelaar PA3WEG from AMSAT-NL reported via the AMSAT-BB that on Monday May, there is a fairly high chance that the AMSAT-NL transponder will be tested for one full orbit.

Details will be made available on short notice, but the target time for an activation starts at approximately 08:30 UTC and may last until about 10:10 UTC.

The aim of the test is to characterize the power budget on board EO-79. Usage of the transponder is being encourage. Please also report the QSOs and signal reports to pa3weg at amsat.org

[ANS thanks Wouter Wouter PA3WEG for the above information]

EO-79 / QB50p1 First Transponder Test Success

AMSAT-NL is delighted to announce that an initial series of tests of the FUNcube transponder payload aboard the QB50p1 CubeSat have been successfully completed.

QB50p1 is one of two QB50 precursor spacecraft that were launched from Yasny in Russia in June 2014.

The primary science payloads are still being extensively tested but it has now been possible to undertake a short test of the transponder payload as well. The transponder is intended as a long term secondary mission following the initial technology demonstration and de-risking phase.

After spending ten months in space, the transponder was commanded on for short periods during each of the three morning passes over Europe on Monday 27th April 2015. A number of FUNcube team members in the Netherlands and in the UK were standing by to run through a predefined test plan.

The transponder has a similar performance to that of FUNcube-1 but the passband is nominally 5 kHz wider by design.

It is not yet known when this transponder may be available for regular usage but AMSAT-NL is delighted to be able to report that the hardware is functioning and is very grateful to the QB50 project, the Von Karman Institute and ISIS B.V. for their ongoing support.

More information about the QB50 project can be found at https://www.qb50.eu/

AMSAT-NL: http://amsat-nl.org

AMSAT-UK: http://amsat-uk.org

[ANS Thanks Graham G3VZV for the above information]

2015 AMSAT-NA Board of Directors Nominations Notice

It is time to submit nominations for the upcoming AMSAT-NA Board of Directors election. Four director's terms expire this year: Barry Baines, WD4ASW, Alan Biddle, WA4SCA, Mark Hammond, N8MH, and Jerry Buxton, N0JY. In addition, up to two Alternates may be elected for one year terms.

A valid nomination requires either one Member Society or five current individual members in good standing to nominate an AMSAT-NA member for Director. Written nominations, consisting of the nominee's name and call, and the nominating individual's names, calls and individual signatures should be mailed to: AMSAT-NA, 10605 Concord St, #304 Kensington, MD 20895-2526. In addition to traditional submissions of written nominations, which is the preferred method,

the intent to nominate someone may be made by electronic means. These include e-mail, Fax, or electronic image of a petition. Electronic petitions should be sent to MARTHA at AMSAT.ORG or Faxed to (301) 822-4371. No matter what means is used, petitions MUST arrive no later than June 15th at the AMSAT-NA office. If the nomination is a traditional written nomination, no other action is required. If it is other than this, i.e. electronic, a verifying traditional written petition MUST be received at the AMSAT-NA office at the above address within 7 days following the close of nominations on June 15th.

ELECTRONIC SUBMISSIONS WITHOUT THIS SECOND, WRITTEN VERIFICATION ARE NOT VALID UNDER THE EXISTING AMSAT-NA BYLAWS.

[ANS thanks the AMSAT Office for the above information]

"Where Over the World Is Astronaut Scott Kelly?" Geography From Space Trivia Contest

During his year-long stay on the International Space Station, astronaut Scott Kelly wants to test your knowledge of the world through a geography trivia game on Twitter. Traveling more than 220 miles above Earth, and at 17,500 miles per hour, he circumnavigates the globe more than a dozen times a day. This gives Kelly the opportunity to see and photograph various geographical locations on Earth. In fact, part of his job while in space is to capture images of Earth for scientific observations.

Follow @StationCDRKelly on Twitter and each Wednesday, Kelly will tweet a picture and ask the public to identify the place depicted in the photo. The first person to identify the place correctly will win an autographed copy of the picture. Kelly plans to continue posting weekly contest photos until he returns from the space station in March 2016.

For more information, visit http://tinyurl.com/ANS123-ScottKelly.

To learn more about the One-Year Mission, visit http://www.nasa.gov/content/one-year-crew.

[ANS thanks the NASA Education Express Message for April 30, 2015 for the above information]

Delfi-C3 has been in orbit 7 years

As of April 28, Delfi-C3 has been in orbit 7 years.

Wouter Weggelaarb, PA3WEG, reports, "When we designed Delfi-C3, no-one would have dreamed it would last this long.

"The satellite still remains healthy and strong. We are delighted to still get the support of the ham radio community and in all those years there have been very few days where no telemetry was decoded and submitted. Thank you very much to those still decoding and sending in telemetry and also to those still signing up for new accounts.

"Delfi-C3 has been praised numerous times as the ideal example of a cooperation of radio amateurs and an university and the team is very proud of that. Together we have demonstrated the first successful Distributed Ground Station Network (DGSN) built around radio amateurs. We as a community can be very proud of this achievement! Without your continued support, this would not have been possible."

Wouer goes on to report that they may need to re-locate their data collection server. When this happens he will report appropriate updates to the AMSAT-BB.

[ANS Thanks Wouter PA3WEG for the above information]

$50SAT/MO-76/Eagle-2 Update

The following status of $50sat/MO-76, one of the first Pocketqubes, was recently posted by Michael Kirkhart,KD8QBA on the 50dollarsat Yahoo group. Here is an excerpt:

"17 Months in Space, Still Working, and How Long Will a $10 Camera Battery last

"Tuesday, April 21, 2015 marked the 17 month anniversary of the launch of $50SAT/MO-76/Eagle-2, and believe or not, it is still operating. Unfortunately, the battery capacity has degraded to the point where the satellite spends a significant amount of time with the battery voltage below the 3300 mV minimum required for enabling the transmitter. As a result, those of us who live in the northern hemisphere no longer hear any transmissions during the evening passes, and for now, rarely hear any during the daytime passes as well. The last telemetry packet I captured here in EN82 land was April 21, and the last one which was error-free on April 10. Fortunately, I have been able hear it operate over Anton's (ZR6AIC) WebSDR station in South Africa during the evening passes (which occur between 4:00 and 6:00 PM Eastern Daylight Time), and occasionally am able to capture error-free telemetry packets. The last one available is from April 24 at 21:25 UTC.

"This situation was fully expected; when looking at the battery voltage chart (which, along with all the other telemetry, is available from our Dropbox at https://www.dropbox.com/sh/l3919wtfiywk2gf/AABRl4iM5BFqVAcLQGSmdsVga/Telemetryanalysis/Current-Telemetry)
the readings took a large drop sometime after February 12. Given this was a $10 camera battery that had gone through over 6,000 orbits, each with temperature swings of -30 degrees C to +30 degrees C, it is surprising it has lasted this long! At this point, it is starting to behave more like a large capacitor than a battery.

"As we get closer to summer here in the northern hemisphere (and after this winter, it cannot come soon enough), $50SAT/MO-76/Eagle-2 will spend more time in the sun before it makes each pass; this means it will be warm enough to enable solar power sooner in the pass, and makes it more likely it we will be able to hear it transmit before it disappears over the southern horizon. Those of you who live in the southern hemisphere, however, should still be able to hear it during both daytime and evening passes. If you could, we would certainly appreciate any telemetry you could gather and post.

"The orbit continues to decay at an average rate of about 1.5
km/week; apogee is just below 570 km at 569.8 km, and perigee is at
538.2 km. Someday, I will attempt to determine when it might actually
de-orbit. If any of you have access to STK or some other fancy
software which might be able to do a de-orbit prediction, please feel
free to run a simulation and let us all know. Some basic parameters
you might need are as follows:

TLEs as of 2015-04-24, 23:53:15 UTC:

EAGLE 2
1 39436U 13066W   15114.82864817 .00033340 00000-0 23789-2 0 9991
2 39436 97.7463 190.7550 0022811 281.2509 78.6152 15.04244039 77466

Using these, the following can be computed:
Semi-major axis = 5743.7488705249 km
Apogee = 569.7766621696 km
Perigee = 538.1516552847
Average cross-sectional area = 0.014252 m^2
Mass = 210 g
Area/mass ratio = 0.06787 m^2/kg

In the meantime, I will continue to update the Dropbox with any new
telemetry gathered. Please keep it coming, even if it has errors or
is incomplete. At this point, we are happy to simply know that it is
still operating."

[ANS Thanks Howie DeFelice AB2S and Michael Kirkhart, KD8QBA for the
above information]

2015 ARRL/TAPR DCC (Digital Communications Conference) Announced

The 2015 DCC will be in Chicago on October 9 - 11
in the northwest suburb of Arlington Heights not far from O'Hare
airport.The DCC has two full days of Technical presentations on
Friday & Saturday and on Sunday morning a deep dive into a technical
subject.
On Saturday there is a full day of concurrent Introductory sessions.
Be sure to register for the DCC and reserve your hotel room early.
DCC information is available at:
http://www.tapr.org/dccLook forward to your participation in the DCC.

TAPR at Dayton Hamvention
TAPR will have booths, forums and a joint banquet with AMSAT at the
Dayton Hamvention. Details about TAPR activities at the Hamvention
are available at: http://www.tapr.org/dayton

[ANS thanks Mark WB9QXB for the above information]

AMSAT at the Dayton Hamvention - Fourth call for volunteers

The Dayton Hamvention is less than three weeks away!

Last year, we had 52 people assist with the AMSAT booth at Dayton.
We've had a good response so far to our call for volunteers, but we
could really use another 10-15 people.

The interaction with AMSAT members, satellite operators, designers, and builders makes the whole experience a lot of fun. Meet or renew acquaintances, exchange operating tips, and find out what antennas, software and equipment other AMSAT members use. We currently expect all of the AMSAT senior officers and 5 of the 7 board members to be there too.

The 2015 Hamvention is May 15-17. Would you consider helping AMSAT at Dayton this year?

If you're an experienced operator, great! We can use you and your experience.

If you've never operated a satellite before, but want to learn more, that's OK. We can use your help too.

Whether you're available for only a couple of hours or if you can spend the entire weekend with us, your help would be greatly appreciated.

Please send an e-mail to Steve, n9ip(a)amsat.org if you can help. Thank you!

[ANS thanks Steve N9IP for the above information]

AMSAT Plans Dayton Rollout for 2015 "Getting Started" Satellite Book

Gould Smith's book, "Getting Started With Amateur Satellites", is being updated to tell you all about how you can get ready to operate through the Fox-1 satellites launching later this year. Additional chapters in the book tell you about tracking software, orbital mechanics, antennas, radios, Doppler tuning, and operating techniques. Chapters are also being added to tell you about the new satellites soon becoming available for amateur radio.

Going beyond brief descriptions in hamfest flyers, this book will provide a complete reference for new satellite users to assemble a basic station and to make your first satellite contacts. Also this book you will teach you how to incrementally upgrade your initial FM satellite station, time and budget permitting, to include automated tracking as well as operating through the CW/SSB linear passband satellites.

A companion Fox-1A reference sheet is also being planned for release at Dayton. This will be made available for AMSAT's FieldOps team for distribution at hamfests and satellite operating demonstrations.

Watch for the 2015 "Getting Started With Amateur Satellites" book and reference sheet at the AMSAT booth at the Dayton Hamvention. The book will also be available in the AMSAT Store shortly after Dayton: http://store.amsat.org/catalog/

[ANS thanks the AMSAT Office for the above information]

AMSAT FieldOps Team SO-50 Operating Guide is Available

AMSAT's Director of Field Operations, Patrick Stoddard, WD9EWK says the FieldOps team is working to make how-to-operate-satellites information readily available on the web. Based on a hamfest handout designed and written by Patrick, "Getting Started with the FM Satellites", is available for download. Patrick shows the basic equipment and techniques to learn successful operating on the satellites. This guide also gives specific information on how to operate via SO-50, the only currently available FM satellite at the moment.

Patrick's guide is posted at:

http://www.amsat.org --> Satellite Info --> Station and Operating Hints.

The direct link is http://www.amsat.org/?page_id=2144 where you'll find the link "Operating FM Satellites" (and a link to the Spanish version also).

[ANS thanks the AMSAT FieldOps Team for the above information]

AMSAT-SM donates $1600 USD for the FOX satellite project

"AMSAT-SM believe that FOX project is very important to continue to develop amateur radio on board satellites. We therefore hope that our contribution can help the FOX satellites up in space."

AMSAT-SM in Sweden has aprox 150 members. Membership is currently free and registration is done online at our website: www.amsat.se

[ANS thanks Lars Thunberg SM0TGU for the above information]

ARISS News

+ A Successful double contact was made with schools in South Africa and in Italy. Participants at Sol Plaatje Primary School, Mahikeng, South Africa and Scuola Secondaria di 1 Grado, Caprino Bergamasco, Italy queried Astronaut Samantha Cristoforetti IZØUDF who was using the Callsign IRØISS. The contact began 2015-05-02 14:34:27 UTC and lasted about nine and a half minutes. Contact was telebridged via IK1SLD. ARISS Mentor was IZ2GOJ.

Upcoming ARISS Contact Schedule

Ryazan, Russia, direct via TBD
Contact is a go for Thu 2015-05-07 08:30 UTC
The ISS callsign is presently scheduled to be RSØISS
The scheduled astronaut is Mikhail Korniyenko RN3BF

Kursk, Russia, WWII veterans, direct via TBD
Contact is a go for Sat 2015-05-09 08:20 UTC
The ISS callsign is presently scheduled to be RSØISS
The scheduled astronaut is Gennady Padalka RN3DT

>From 2015-05-11 to 2015-06-14, there will be no US Operational

Segment (USOS) hams on board ISS. So any schools contacts during this period will be conducted by the ARISS Russia team.

[ANS thanks ARISS, Charlie AJ9N and David AA4KN for the above information]

[ANS thanks ARISS, Charlie AJ9N information]

Satellite Shorts From All Over

+ Grid Master Award # 3
  Congratulations to WA4NVM Rick for working and confirming all 488 US grids
  GRID MASTER AWARD #3 4-26-2015

+ 5 in EM55 Award
  Congratulations to WF7L Jeff for 5 in EM55 award # 58

  [ANS Thanks Damon WA4HFN for the above

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AMSAT User Services and the Editors of the AMSAT New Service pass on our condolences to ANS Weekly Co-Editor Joe Spier K6WAO and his family on the death of Joe's mother this week.

In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information.

73,
This week's ANS Editor,
EMike McCardel, KC8YLD
kc8yld at amsat dot org